Appendix F

San Antonio-Bexar County MPO Regional Toll Analysis

Regional Toll and Managed Lane Analysis

San Antonio – Bexar County MPO

November 21, 2011

DRAFT

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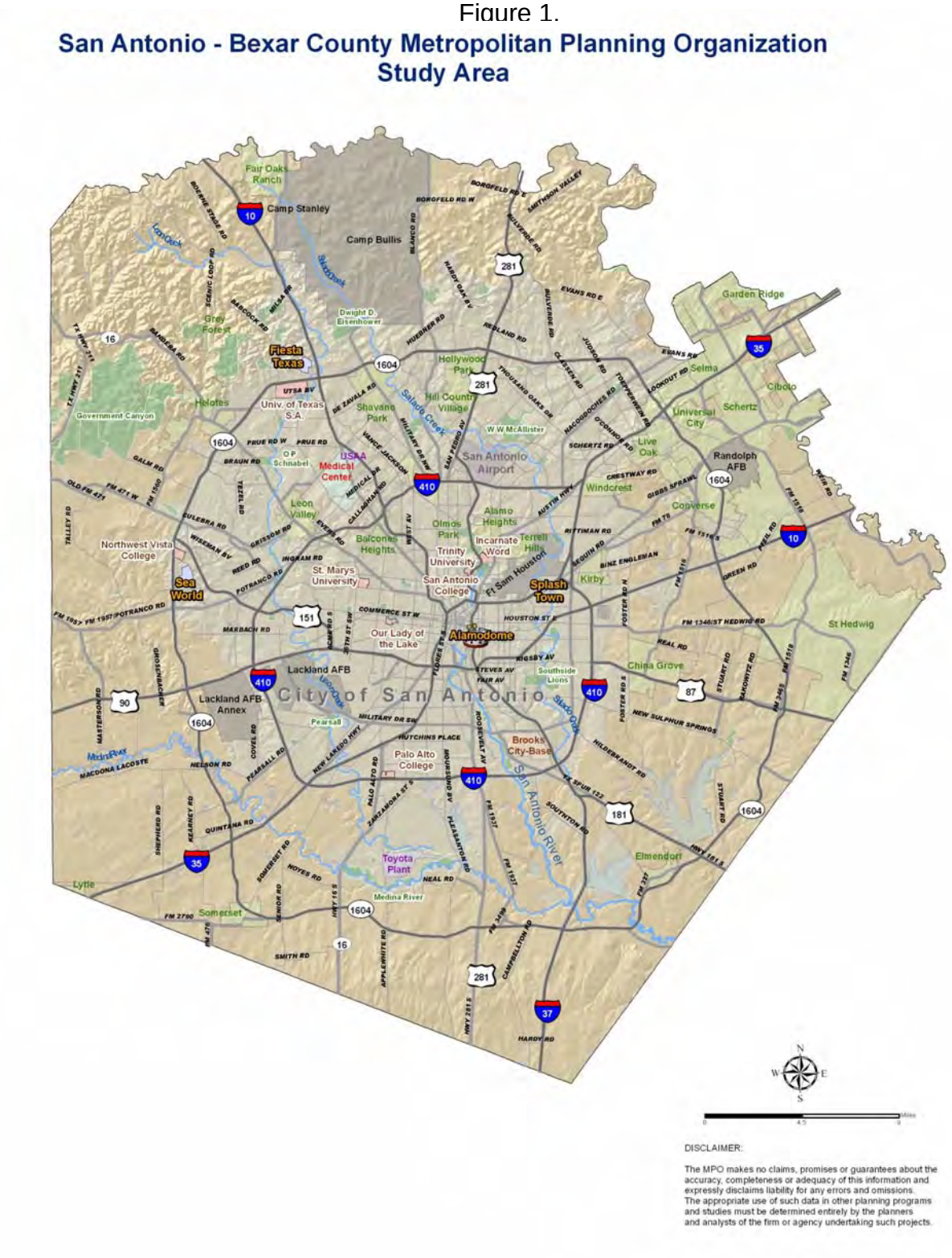
Purpose

The San Antonio – Bexar County Metropolitan Planning Organization (MPO), serving all of Bexar County and part of Guadalupe and Comal counties (see Figure 1), is charged with planning for transportation throughout the region.

Figure 1.



The MPO's Metropolitan Transportation Plan (MTP), titled "Mobility 2035", is a financially constrained long range transportation plan that outlines strategies and transportation projects to address multimodalism, safety and mobility. One significant mobility strategy is the addition of lane capacity. However, there is recognition that the region cannot just build itself out of current and future congestion, as adding capacity and maintaining it is very costly. One strategy to assist with rising costs and dwindling transportation funds are facilities with user fees such as managed lanes and toll roads.

The expressway, toll and managed lane network is a major component of the San Antonio region's future transportation system. In 2035, within the MPO study area, the expressway/toll/managed lane system represents 27% of the non-local (includes collector, arterial, toll, and expressway roadway types) lane miles and 58% of the non-local vehicle miles of travel. Currently there are no toll or managed lane facilities within the MPO study area.

VIA Metropolitan Transit is the regional public transportation authority, with a service area encompassing approximately 1,226 square miles. The region has no high occupancy vehicle lanes; all transit service runs in mixed flow transit. Future growth in travel will be mitigated somewhat by proposed improvements to the transit system and improved arterial operations, but regional population and employment growth coupled with declining state and federal revenues will likely require implementation of toll and managed lane facilities. This analysis focuses on the proposed toll and managed lane system for the San Antonio region. Nearly all of the planned toll and managed lanes are in existing expressway corridors as shown in Figure 2.

It is important to note that two of the corridors, US 281 North and Loop 1604, currently have an Environment Impact Statement under development. While certain assumptions have been made about a toll and/or managed lane system in this document, it is premature to assert that any toll/managed lane facilities, their final configuration, construction phasing and financing are known at this time.

Project Descriptions

The projects are described as follows in the FY 2011-2014 Transportation Improvement Program and Metropolitan Transportation Plan:

US 281 from Loop 1604 to Bexar/Comal County Line: Expand to six lane expressway (toll six new mainlanes), non-toll outer lanes, and non-toll northern interchange connectors at Loop 1604; to let in FY 2014

Loop 1604 from W. Military Drive to Braun Road: Expand to six lane expressway (toll six new lanes) and non toll outer lanes including two toll direct connectors at SH 151; to let in FY 2013

Loop 1604 from Braun Road to SH 16: Expand four to eight lane expressway (toll four new mainlanes) and non toll outer lanes; to let in FY 2013

Loop 1604 SH 16 to N. W. Military Highway: Expand four to eight lane expressway (toll four new mainlanes) and non toll outer lanes including two toll direct connectors at IH 10; to let in FY 2013

The projects are described as follows in the Metropolitan Transportation Plan:

Loop 1604 from N.W. Military Highway to Redland Road: Expand four to eight lane expressway (toll four new mainlanes) and non toll outer lanes; to let in FY 2014

Loop 1604 from Redland Road to Kitty Hawk: Expand from four to eight Lane expressway (Toll four mainlanes) and non-toll outer lanes; EIS is underway and project is subject to change; to let in FY 2018

Loop 1604 from IH 10 (east), N to Kitty Hawk: Expand from two lane and four lane divided to four lane expressway (toll four new mainlanes) w/four non toll outer lanes; to let in FY 2030

Loop 1604 from 0.87 Mi S. of US 90 to W. Military Drive: Expand to four lane expressway (toll four new mainlanes) w/four non toll outer lanes; to let in FY 2023

IH 35 from US 281/IH 37, East to 0.5 Mi S of Binz Engleman: Expand from six lane to ten lane expressway (toll four new mainlanes); Environmental study required; project is subject to change; to let in FY 2020

IH 35 from 0.5 Mi S of Binz Engleman to 0.3 Mi N of Randolph Blvd: Expand six to twelve lane (toll six new mainlanes) includes toll direct connectors at Loop 1604; Environmental study required; project is subject to change; to let in FY 2020

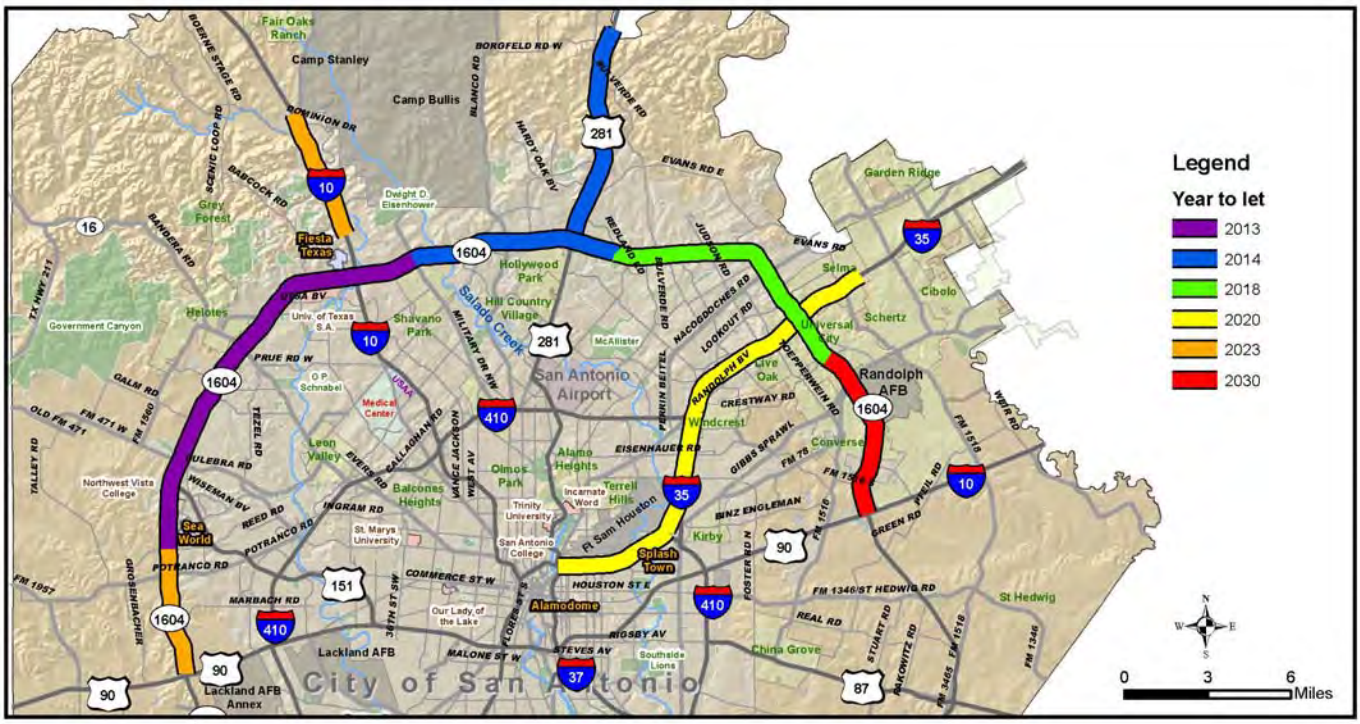
IH 35 from 0.3 Mi N of Randolph Blvd to 0.2 Mi S of Schertz Parkway: Expand from eight to fourteen lane expressway (toll six new mainlanes) includes toll direct connectors at IH 410 S and IH 410 N; Environmental study required; project is subject to change; to let in FY 2020

IH 10 West from 1.40 Mi S of Leon Springs to 1.5 Mi N of Loop 1604: Transit/Managed Lanes (one lane in each direction); to let in FY 2023

IH 10 West from FM 3351 to 1.4 Mi S of Leon Springs: Transit/Managed Lanes (one lane in each direction); to let in FY 2023

From the project descriptions and the alignments as shown in Figure 2, it is evident that all of the projects are in existing travel corridors and that a non-toll alternative will be available for each alignment.

Figure 2. Proposed Toll/Managed Lane System



Demographic Development

Control Totals

The basis of any effective planning effort rests primarily on a determination of the area's base year demographics and projections of these demographics. The MPO used 2005 as the base year for the December 2009 update of the MTP. For the future years, various federal and state government data sources were used for the population and employment forecast control totals in five-year increments to the year 2035 for the San Antonio region.

The process for forecasting and distributing future growth in population and employment is not an exact science. Multiple forecasting models exist with differing assumptions and results. What is needed for the transportation planning process is a "comfort level" with the demographic control totals used to predict future travel. The tendency is to be more comfortable with the recent trends. If the economy is doing well and jobs and housing are expanding, the tendency is to select an optimistic forecast. The tendency to select a conservative forecast usually occurs if the current or most recent trend is decreasing or if a flat economy exists. Upturns and downturns in the economy occur in cycles that, over a 20 or 30-year time span, tend to counteract each other. That is why annualized growth rates are important indicators for long term demographic projections.

If a conservative approach is taken and selected control totals are too low then the risk is to be behind in planning for needed infrastructure. If the control totals are too optimistic, this could result in a false or premature justification for roadway and/or transit infrastructure improvements.

The population control totals for Bexar County, in five-year increments to year 2035, are from the Texas Water Development Board. The control totals for Bexar County were approved by the MPO Transportation Policy Board in February 2007. The population control totals for the other counties in the MPO study area (Comal and Guadalupe counties) were from the Texas State Data Center. These population forecasts were approved by the Alamo Area Council of Governments' Area Judges Committee in April 2007.

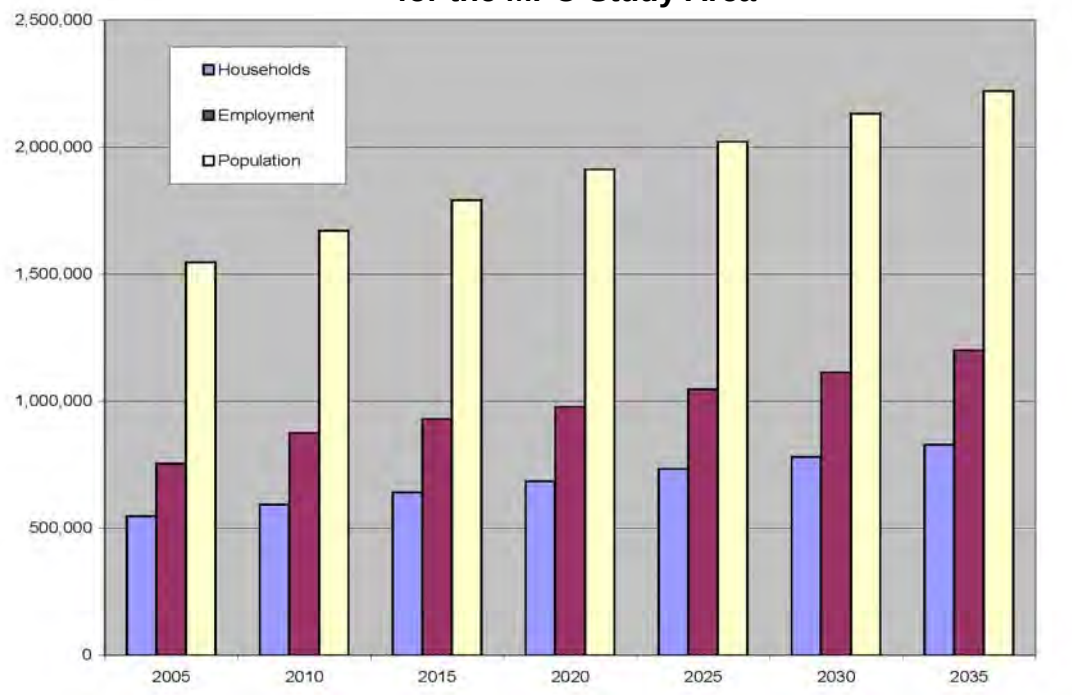
A primary source of base year employment information was the Texas Workforce Commission's (TWC) files (3rd Quarter 2005). The information was geo-coded based on the addresses provided. Where street addresses were not available, telephone books, business listings, and telephone surveys were made to collect information from those employers' locations. The forecasted employment control totals, in five-year increments to year 2035, are derived from Dr. Ray Perryman's (a respected authority on the Texas economy) forecast. The employment forecast totals for Bexar County were approved by the MPO Transportation Policy Board in February 2007. The employment forecast for Comal and Guadalupe counties was approved by the Alamo Area Council of Governments Area Judges Committee in April 2007.

The adopted population and employment control totals for the MPO study area are shown in Table 1 and are graphically represented in Figure 3.

Table 1. Population, Households and Employment Control Totals for the MPO Study Area (in millions)

	2005	2010	2015	2020	2025	2030	2035
Population (in millions)	1.55	1.67	1.79	1.91	2.02	2.13	2.22
Households (in millions)	0.55	0.59	0.64	0.68	0.73	0.78	0.83
Employment (in millions)	0.75	0.86	0.93	0.98	1.05	1.11	1.20

Figure 3. Population, Households and Employment Control Totals for the MPO Study Area



While area-wide demographic control totals were readily available, these figures needed to be disaggregated to census tracts and eventually to the traffic analysis zone level for use in the travel demand model. It should be noted that while the allocation model used for the disaggregation process will produce an estimate of what may happen in the future, there is no way to predict the occurrence of unforeseeable changes that would affect the future distribution of employment and population. This, in part, necessitates that the forecast be reviewed and updated on a regular interval.

The demographic forecasting output at the traffic serial zone level for each future year increment is the result of a joint effort by the transportation planning agencies in the study area. Concurrence by these agencies on future demographics is necessary before work commences on a subsequent model run. Concurrence ensures minimizing duplication of effort in data development and maximizes local confidence in demographic forecasts. The MPO's partner agencies that comprise the Demographic Working Group include the Alamo Area Council of Governments, Bexar County, City of San Antonio, CPS Energy, San Antonio Water System, Texas Department of Transportation, and VIA Metropolitan Transit.

METROPILUS

The software package METROPILUS was used for the update of "Mobility 2035." The model provides a reasonable and disaggregated data for future years. METROPILUS is an evolution of the DRAM (Disaggregated Residential Allocation Model) and EMPAL (Employment Allocation Model) package and combines employment, residence

location, transportation networks, and land consumption in a single comprehensive package embedded in a Geographic Information Systems (GIS) environment.

The overall concept of the METROPILUS forecasting process can be stated simply: the model allocates the total growth in employment, households, and land use for an area into its sub-regional component zones. This allocation is made possible by using regional trends, transportation facility descriptions, and data on current location of employment and households. The required data for the METROPILUS model runs include current census of population and employment by place of work, total future population and employment, travel times between zones and current land use information. The forecasts are done in five-year increments with one forecast becoming input to the next five-year forecast.

Demographic Scenario Planning

Background

Scenario Planning was initiated to engage residents and policy makers in a discussion of the region's future growth and development patterns. Scenario planning enhances the traditional transportation planning process by raising awareness of citizens and decision makers of the factors that affect growth and impact our transportation system. Factors include an aging population, land use policies, economics, and environmental concerns. In scenario planning, citizens and policy makers are asked to consider alternative approaches, or "scenarios" to shaping the region and understanding the differences between each approach. The ultimate goal is to create a sustained quality of life for citizens and visitors in our region.

The Federal Highway Administration (FHWA) actively encourages and supports scenario planning. FHWA believes that scenario planning can help citizens, businesses, and government officials understand the impacts of growth, especially the relationship between transportation and the social, environmental and economic development of regions. This relationship is a two-way street: growth and development affect transportation performance, while transportation affects social, environmental, and economic development.

FHWA sees scenario planning as an enhancement of, not a replacement for, the traditional transportation planning process. It enables communities and transportation agencies to better prepare for the future. Scenario planning highlights the major forces that may shape the future and identifies how the various forces might interact, rather than attempting to predict one specific outlook. As a result, regional decision makers are prepared to recognize various forces to make more informed decisions in the present and be better able to adjust and strategize to meet tomorrow's needs. Rather than picking one definitive picture of the future and planning for that future, scenario planning allows a region to consider various possibilities and identify policies that can adapt to changing circumstances. Scenarios do not describe a forecasted end but are stories about future conditions that convey a range of possible outcomes. The scenario planning process can help people understand the forces of change and the choices they have.

Scenario Development Process

The Demographic Working Group began the task of developing the initial framework for the development of scenarios. Generally, the group considered quality of life issues facing the region and expressed those issues in terms of questions:

- How far do people want to live from work, school or recreation activities?
- Are people willing to consider other transportation alternatives to travel in their daily life?
- How long are people willing to spend on a daily work commute?

The group also considered:

- the amount of expected growth in the region based on the adopted population and employment control totals;
- development trends over time;
- congestion levels;
- local, regional and world economy;
- expected gas prices;
- air quality, climate change and other environmental concerns;
- future availability of transportation funding, and
- technological improvements.

In generating the scenarios, the Demographic Working Group considered what was achievable and in what timeframe. Plus the scenarios had to differ significantly from traditional growth patterns in order to realize impacts to the transportation system using the available tools. Three development scenarios were considered: Each growth pattern is distinct and represents clear choices. All growth scenarios have the same population growth, job growth, and new households. Differences in the scenarios are shown in where and how the land use in our region occurs. The three growth scenarios evaluated were:

- *Current Growth Trends* – the majority of new growth continues outside of Loop 1604.

- *Transit Oriented Development* – beyond year 2015, several high-capacity transit corridors are defined within Bexar County and the majority of new, higher density growth is attracted to station locations in these corridors.

- *Infill Development* – by year 2020, new policies and incentives result in all new growth within Bexar County occurring inside Loop 1604.

Although the transit oriented development and infill development scenarios challenge existing thought patterns, basic stories can be created that bring these scenarios to life for residents and policy makers. Gas prices, while not as high as they were in the Fall

of 2005, were still higher than they were prior to 2005. State and federal transportation funding is becoming more unreliable and without additional local participation in funding, many large transportation projects supporting single occupant auto driving may not be able to be built. Also there is an increased awareness of alternative fuels, the environment and policies that support a sustainable economy. The next step of the process tested the public's acceptance of and the credibility of potentially implementing transit oriented development or infill development as a formal growth pattern.

The MPO held a series of public meetings in February and March 2009 and asked the community "How would you like to grow?" The public meetings were designed to gather input on which land use growth scenario would best meet the community's future needs. Participants preferred aspects of both Transit Oriented Development and Infill development as growth patterns for the region, and overwhelmingly decided that the future growth for the region should include a combination of the two types of development. Based on recorded public feedback some dominant themes emerged regarding future growth and development for the region:

- Need to work with other agencies to bring about desired growth scenarios
- Need to address other infrastructure and social issues at the same time as addressing transportation
- Need to focus on non-auto options such as bike, pedestrian and transit
- Need more opportunity for public dialogue, public education and input to policy makers
- Need to address environmental concerns, especially aquifer protection
- Need to address circulation issues downtown

Following the workshops the MPO analyzed the responses from the public and presented the results to the Transportation Policy Board. In addition, the concepts, policies and standards that might require change were assessed.

A combination of the two scenarios would include policies and standards that:

- Promote physical integration of development, either vertically or horizontally
- Achieve appropriate levels of density
- Allow people to move between destinations easily, and rely much less on their vehicles
- Provide multi-modal transportation options
- Provide adequate parking without creating an oversupply
- Promote activity at different times of the day and week, balancing transit ridership and allowing for shared parking
- Promote street width that slows traffic and is pedestrian friendly (24-36 ft.)
- Improve sidewalk standards, benches, trees and lighting
- Primary streets should include dedicated spaces for transit vehicles, cyclists and pedestrians
- Use access management techniques to increase safety and make the street more accessible for all modes of transportation
- Offer rear access for service trucks

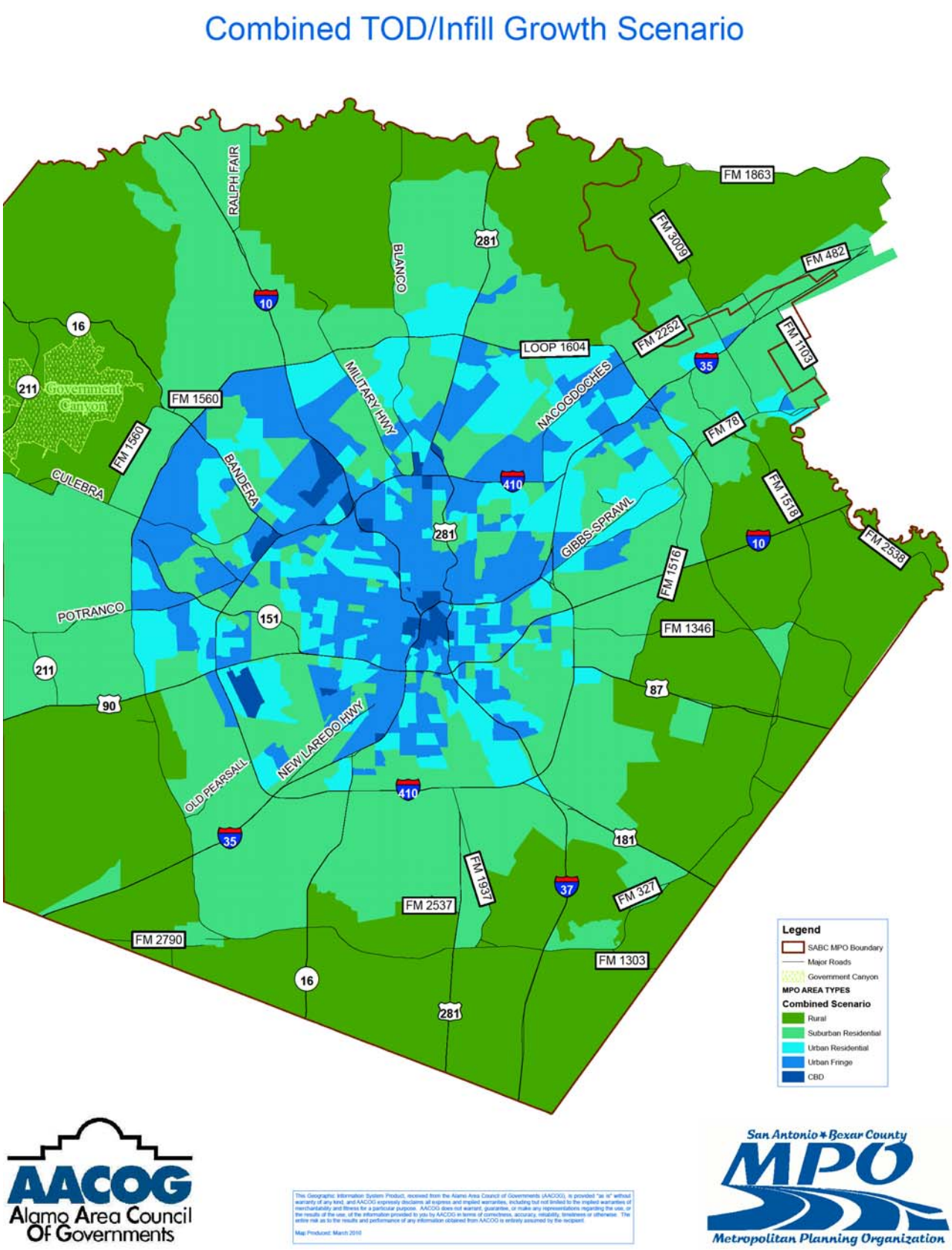
Growth Scenario Adoption

In March 2009, the MPO's Transportation Policy Board adopted a combined Transit Oriented Development/Infill Development land use scenario for use in the 2035 MTP update, with the knowledge that concepts from both scenarios are centered around compact and mixed use development, connectivity, accessibility and walkability. Consistent with the original scenarios defined on page 11, the adopted scenario assumes, within Bexar County, no new growth will occur outside of Loop 1604 after year 2015. In April 2009, the Transportation Policy Board unanimously approved a resolution supporting the adopted combined scenario. The resolution is meant to share with other municipalities and to communicate the desired long-term growth for the region.

Since the selected demographic scenario, a combination of transit oriented development and infill development, is a departure from the traditional growth pattern, it will be essential to monitor our partner agencies' efforts towards successfully implementing this selected growth pattern as well as potentially reassess the growth scenario in the next update of the long range transportation plan. The map in Figure 4 shows the varying densities of population and employment in year 2035.

Since most of the proposed toll/managed lane facilities are all located on existing expressway alignments (Loop 1604, IH 35, IH 10), the impact on land use will be minimal.

Figure 4. Map of Adopted Growth Scenario:



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Map Produced: March 2010

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Metropolitan Planning Organization

Environmental Considerations

Environmental Mitigation Analysis

When considering any transportation project, whether tolled or not, the MPO must take into account potential impacts to the environment and community and consider environmental mitigation activities. The following environmental concerns are defined in Table 2.

- Water Quality
- Floodplains
- Wildlife Habitat
- Agriculture
- Edwards Aquifer
- Environmental Justice
- Threatened and Endangered Wildlife (state/federal)

For a broad based environmental evaluation, the MPO primarily used the Geographic Information System Screening Tool (GIS-ST). The GIS-ST is a GIS-driven environmental assessment and data management tool for environmental streamlining. GIS-ST uses ArcGIS to identify and map environmental concerns and to screen potential projects. A sample GIS-ST map depicting % Wildlife Habitat can be found in Figure 5. The MPO reviewed each project in the funded MTP project list to determine the impact of these environmental concerns to each of the projects on the list. The list of managed lane and toll projects in the MTP that includes the above listed environmental concerns can be found in Table 3. The NEPA documentation for each specific toll and/or managed lane project will specifically address the needs in each corridor. Appendix A contains tables for both the U.S. 281 and Loop 1604 corridors and the environmental methodology being used in their respective EIS'.

Figure 5. Sample GIS-ST Map: % Wildlife Habitat

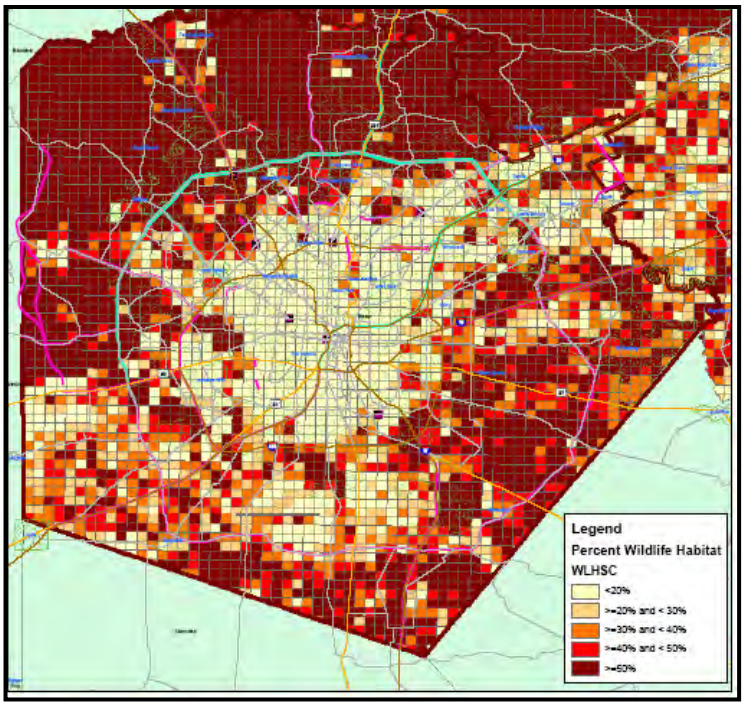


Table 2. Potential Environmental Mitigation Strategies

Criteria Group	Source	Description	Potential Strategies
Water Quality	GIS-ST	Ecologically Significant Stream Segments, Percent Wetlands, Total Maximum Daily Load (TMDL)	Avoid rivers, creeks and other waterways to protect water quality as well as reviewing areas where wetland/stream restoration, enhancement or creation will occur.
Floodplain	GIS-ST	Percent Floodplains	Avoid or minimize adverse effects to ecological area through the preservation of land for parks and trails. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.
Wildlife Habitat	GIS-ST	Percent Wildlife Habitat	Avoid or minimize adverse effects to ecological area through the preservation of wildlife habitats. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.
Agriculture Land	GIS-ST	Percent Agriculture Land	Avoid or minimize adverse effects to ecological area through the preservation of agriculture land and open space. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.
Edwards Aquifer	GIS-ST/ Edwards Aquifer Authority	Edwards Aquifer Recharge Zone and Recharge/ Transition Zone Boundary/Contributing Zone/Contributing Zone within Transition Zone	Avoid or minimize impacts to the aquifer through the use of the Edwards Aquifer Rules. Implement mitigation measures through design, the use of native landscaping, minimizing pesticides and fertilizers and the use of permeable surfaces to reduce impacts on ground water recharge.
Environmental Justice	U.S. Census/MPO	Areas identified as environmental justice through the 2000census tracts expanded to the Transportation Analysis Zone level (TAZ)	Avoid or minimize adverse effects through project alignment and design. Implement other transportation projects or programs that correct or minimize the adverse impacts.
Threatened and Endangered Wildlife	GIS-ST	State Threatened and Endangered Wildlife and Federal Threatened and Endangered Wildlife	Avoid or minimize adverse effects to ecological area through the preservation of threatened and endangered wildlife. Establish and use a regional approach to land preservations if direct preservation of a specific resource is not reasonably feasible. Avoid and minimize adverse impacts through project alignment and design.

Table 3. Metropolitan Transportation Plan - "Mobility 2035": Toll and Managed Lane Project Listing with Environmental Considerations

Name / MPO Number / CSJ / Type of Work / Planned Fiscal Year	Limits From: / To: / Project Description / Environmental Considerations			
IH 10 West 3774.0 72 7 41 Added Capacity: Managed FY 2023	**FM 3351**	**1.4 Mi S of Leon Springs**	**Project Cost:**	$74,366,583
	Transit/Managed Lanes (1 lane in each direction)			
	Edwards Aquifer, Environmental Justice, Floodplain, Wildlife Habitat,			
IH 10 West 3007.0 72 8 89 Added Capacity: Managed FY 2023	**1.40 Mi S of Leon Springs**	**1.50 Mi N of Loop 1604**	**Project Cost:**	$47,470,491
	Transit/Managed Lanes (1 lane in each direction)			
	Agriculture, Edwards Aquifer, Environmental Justice, Floodplain, Threatened & Endangered Wildlife, Wildlife Habitat			
IH 35 North 3477.0 16 7 113 Added Capacity: Toll FY 2020	**0.3 Mi N of Randolph Blvd**	**0.2 Mi S of Schertz Parkway**	**Project Cost:**	$1,018,355,254
	Exp from 8 to 14 lane expy (toll 6 new mainlanes) incl toll direct conns at Loop 1604; Env study req; project is subject to change			
	Agriculture, Environmental Justice, Floodplain, Water Quality, Wildlife Habitat			
IH 35 North 61.2 17 10 168 Added Capacity: Toll FY 2020	**0.5 Mi S of Binz Engleman**	**0.3 Mi N of Randolph Blvd**	**Project Cost:**	$688,144,172
	Exp 6 to 12 lane (toll 6 new ML) incl toll direct conns at IH 410 S & IH 410 N; Env study req; project is subject to change			
	Wildlife Habitat, Environmental Justice			
IH 35 North 3514.0 17 10 180 Added Capacity: Toll FY 2020	**US 281/IH 37, East**	**0.5 Mi S. of Binz Engleman**	**Project Cost:**	$335,546,368
	Expand from 6 lane to 10 lane expy (toll 4 new ML); Env study req; project is subject to change			
	Environmental Justice, Floodplain, Threatened & Endangered Wildlife, Water Quality, Wildlife Habitat			
Loop 1604 2020.0 2452 1 29 Added Capacity: Toll FY 2023	**0.87 Mi. S. of US 90**	**W. Military Drive**	**Project Cost:**	$179,806,080
	Expand to 4 lane expy (toll 4 new ML's) w/4 non toll outer lanes			
	Agriculture, Environmental Justice, Floodplain, Wildlife Habitat			
Loop 1604 3911.0 2452 1 910 Added Capacity: Toll FY 2013	**W. Military Drive**	**Braun Road**	**Project Cost:**	$226,097,870
	Expand to 6 lane expy (toll 6 new lanes) and non toll outer lanes including 2 toll direct connectors at SH 151			
	Agriculture, Environmental Justice, Floodplain, Wildlife Habitat			

Table 3. Metropolitan Transportation Plan - "Mobility 2035": Toll and Managed Lane Project Listing with Environmental Considerations

Name MPO Number CSJ Type of Work Planned Fiscal Year	Limits From: Project Description **Environmental Considerations**	To:		
Loop 1604 3912.0 2452 1 911 Added Capacity: Toll FY 2013	**Braun Road**	**SH 16**	**Project Cost:**	$62,586,543
	Expand 4 to 8 lane expy (toll 4 new MLs) and non toll outer lanes			
	Environmental Justice, Wildlife Habitat			
Loop 1604 3913.0 2452 2 915 Added Capacity: Toll FY 2013	**SH 16**	**N.W. Military Highway**	**Project Cost:**	$308,784,186
	Expand 4 to 8 lane expy (toll 4 new MLs) and non toll outer lanes including 2 toll direct connectors at IH 10			
	Edwards Aquifer, Environmental Justice, Floodplain, Wildlife Habitat			
Loop 1604 3914.0 2452 2 940 Added Capacity: Toll FY 2014	**FM 1535 (N.W. Military Hwy)**	**Redland Road**	**Project Cost:**	$207,240,170
	Expand 4 to 8 lane expy (toll 4 new MLs) and non toll outer lanes			
	Edwards Aquifer, Environmental Justice, Floodplain, Water Quality, Wildlife Habitat			
Loop 1604 2021.0 2452 3 81 Added Capacity: Toll FY 2030	**IH 10 (East), N**	**Kitty Hawk**	**Project Cost:**	$495,062,599
	Expand from 2 lane & 4 lane divided to 4 lane expy (toll 4 new ML) w/4 non toll outer lanes			
	Agriculture, Environmental Justice, Floodplain, Wildlife Habitat			
Loop 1604 3530.0 2452 3 87 Added Capacity: Toll FY 2018	**Redland Road**	**Kitty Hawk**	**Project Cost:**	$299,302,713
	Expand from 4 to 8 Lane Expressway (Toll 4 ML's) and no-toll outer lanes; EIS is underway and project is subject to change			
	Agriculture, Environmental Justice, Floodplain, Wildlife Habitat			
US 281 3781.0 253 4 138 FY 2014	**Loop 1604**	**Bexar/Comal County Line**	**Project Cost:**	$356,216,390
	Expand to 6 lane expy (toll 6 new MLs), non-toll outer lanes, and non-toll northern interchange connectors at Loop 1604			
	Edwards Aquifer, Environmental Justice, Floodplain, Water Quality, Wildlife Habitat			

Air Quality

The Environmental Protection Agency (EPA) under the Federal Clean Air Act (CAA) created National Ambient Air Quality Standards (NAAQS) to focus on the health threat of certain pollutants, mainly located in major metropolitan areas. If there is a determined health threat, or too much of one pollutant in a determined statistical area, that region becomes non – compliant and is designated as "non-attainment" by the EPA.

Currently, the greater San Antonio area is in attainment of all NAAQS. However, if a stricter standard is adopted, it is very likely the region will become non-attainment for ground level ozone.

If and when non-attainment occurs in the San Antonio region, the MPO and partner agencies are prepared to conduct conformity analysis on all transportation projects in order to ensure projects are not exacerbating the air quality problems for the region. Plans and strategies to improve air quality will also be developed. Transportation Conformity addresses air pollution from on-road mobile sources. The EPA's air quality conformity regulations ensure that metropolitan transportation systems, transportation projects, and federal projects do not cause new air quality violations, exacerbate existing ones, or delay attainment of the standards.

Water Quality

Due to the development and expansion in the recharge zone of the Edwards Aquifer area and recent weather conditions including drought, concerns regarding the importance of looking after and preserving the water resources in the San Antonio area continues.

As the metropolitan area continues to grow, the needed transportation projects will impact surface water flow and infiltration, especially during storm or flood conditions. Because transportation facilities generally cause an increase in the impermeable surface area, roadways can result in increasing local surface runoff and reducing water infiltration into the soil. Roadway construction projects can also cause the altering of drainage patterns at stream crossings, by changing the speed, direction and amount of storm water flow.

There are several mitigation strategies that could be used to reduce storm water runoff and degradation of the Edwards Aquifer by minimizing the impact of transportation improvements. Most of these can be directly incorporated into the design of the transportation facility. The MPO and partner agencies will work together to ensure there is minimal impact on the Edwards Aquifer. The NEPA documentation for each specific toll and/or managed lane project will specifically address the needs in each corridor.

Toll Policy

Development and Adoption of the Toll Policy

It is important to note the assumptions provided in this section were made under differing market conditions, however, the terms and conditions provided here is the best information available by the Alamo Regional Mobility Authority to date.

During 2007, the Alamo Regional Mobility Authority (RMA) worked closely with financial advisors to develop the financing plan necessary to implement the San Antonio region's toll system utilizing a public financing method.

Senate Bill 792 (SB 792) was passed during the closing days of the 80th Legislative session, and was signed into law by Governor Rick Perry on June 11, 2007 with an immediate effective date. SB 792 provided for a number of changes to toll related policy within the state of Texas, including the establishment of a right of first refusal for regional mobility authorities or other transportation entities, as well as creating a market valuation process.

The market valuation, developed through negotiations between the Alamo RMA and the Texas Department of Transportation (TxDOT) establishes a valuation based on several assumptions, including the probable build out scenario, initial toll rates, and escalation methodology for the toll rates. This process is also intended to provide the region with an anticipated quantifiable value to the community through development of the project.

As the San Antonio - Bexar County Metropolitan Planning Organization (MPO) has a regional mobility authority operating within its jurisdictional boundaries, SB 792 required the MPO to concur with proposed business terms contained within a market valuation, before the project can move forward for development.

At their meeting on October 24, 2007, the Alamo RMA adopted the toll rates and escalation policy as shown in Table 4. This information was used to develop their financing model, which is in line with the proposed market valuation terms, as required under the terms of Senate Bill 792.

Under this toll rate and escalation, at opening day on the U.S. 281 North toll project, for example, a trip on U.S. 281 from Loop 1604 to north of Marshall Road, through the main lane toll gantry, would have an estimated total cost of $0.68 which equates to $0.17 per mile for this approximately 4 mile trip. For those drivers who exit prior to the main lane gantry, there will be a minimum charge established for the exit ramps along the corridor. It is important to note that all assumptions in this section were made under differing market conditions and are subject to change. However, this is the best information available to date.

Toll Collection System

The San Antonio Toll System will be a full electronic toll collection system, affording drivers the choice between a standing toll tag account interoperable across Texas, or the use of video tolling (pay by mail) – a photo capture of license plates with a monthly billing statement.

While final prices have not been established at this time, using the TxTag model as an example, it is assumed that the first tag per vehicle will be issued for no charge and a fee would accompany any additional replacement tags for the same vehicle, based on the cost of the tag itself. This model allows for the establishment of a pre-paid account and a post-paid account, with the option to link to a bank account or credit card in the later instance and the ability to place a cash deposit done for toll fees at the customer service centers located within the community.

A pay-by-mail or video billing option is presumed to be part of this component for those drivers who do not use a toll tag to use the toll facilities. This option will have a premium charge associated with the billing, and using industry averages, this is presumed to be approximately a 33% increase over the posted "Tag Only" rate. Additionally, a processing fee to recover costs of mailing the bill, and verification for the license plate by computer and manual verification will be included.

All tag and toll materials, including billing, will comply with all relevant executive orders, federal regulations and state law regarding accessibility for language preferences, ADA compliance, and other related impacts.

Initial Adopted Toll Rates and Escalation Methodology

The San Antonio-Bexar County MPO adopted these initial toll rates and escalation methodology, shown in Table 4, at its December 3, 2007 Transportation Policy Board meeting.

Table 4. Adopted Toll Rates and Escalation Policy

Item	Estimated Amount (2007$)	Applicable to
2-3 axle vehicle toll rate – main lane traffic	$0.15 per mile	All vehicles, 2-3 axle, including governmental, TxDOT and RMA employees
More than 3 axle vehicle toll rate – main lane traffic	$0.40 per mile	All vehicles over 3 axles, utilizing toll main lanes
Direct connector toll rate, 2-3 axle vehicle	$0.50 per connector	2-3 axle vehicles utilizing a toll direct connector interchange
Direct connector toll rate, more than 3 axle	$1.00 per connector	More than 3 axle vehicle utilizing a toll

vehicle		direct connector
Emergency first responders	$0.00	All emergency response vehicles and state and federal military vehicles are allowed to use the toll system for no charge, as per state law.
Public transit	Free to a limit per year	VIA Metropolitan Transit vehicles, will be established on a corridor by corridor basis, to allow for exemptions up to an annual cap
Minimum toll escalation per year – see note below ♦		2.75% per year, for the first 10 years, thereafter increasing to 3% per year
It is important to note these assumptions were made under differing market conditions, and are subject to change. However, this is the best information available to date.		

♦ The toll escalation rate shown above is a reflection of the consumer price index. The 2.75% factor is the average CPI for the last decade. The 3.00% factor is the CPI average for the last twenty years.

Toll Operations and Collections

On October 10, 2007, the Alamo RMA Board of Directors approved the initial toll policies for collection and operation of the Alamo RMA system. Specifically included in this policy was the establishment of an exemption for VIA Metropolitan Transit to utilize the U.S. 281 North Toll project of up to $42,000 per year as of the opening day of the U.S. 281 North toll project. This rate can be increased based on increases in VIA usage in the corridor, by concurrence of both the Alamo RMA and VIA. Currently no transit services exists along the extent of Loop 1604 and no agreement has been made on the use of toll/managed lanes by vanpools that may be administered by VIA.

The limit described in the market valuation business terms reflects a negotiated amount on a yearly basis for the U.S. 281 North Corridor between the Alamo Regional Mobility Authority and VIA Metropolitan Transit. This same cap, developed by taking projected bus trips on the corridor, which would use the main lanes of traffic, for a calendar year, will be provided for each corridor open where toll lanes are in place and will be updated on an annual basis.

The exemption described above is left to the discretion of VIA to administer for its fleet, and provides financial certainty for bond holders that the amount being exempted will be recognized and accounted for each year by the entity issuing the debt.

The anticipated demand for VIA trips using the U.S. 281 North corridor is in flux at this time as VIA is implementing a new 25 year long range plan. Once components of that new plan are more formalized, then the cap may be re-examined and updated as project development moves forward.

Additionally, the Alamo RMA toll policy includes incentive periods for the U.S. 281 North Toll project to allow for the first two months of operation to be free to all users, and

provides that in the third month, those users who have an electronic toll tag will receive a 50% discount off the toll rate.

In the fourth month of operations, all toll users will pay the established rate as shown above for the per mile trip for through traffic on the U.S. 281 North corridor.

The Alamo RMA will establish similar policies and exemptions on a corridor-by-corridor basis as the toll system is developed. The RMA's adopted build out model anticipates utilizing a design-build process for each project and public finance model to fund the construction for each project.

The model is subject to change during financing for each project, due to prevailing market conditions at that time. Based on the initial financial analysis for this build out model, there was a 3:1 leverage of toll revenue bonds to the Texas Mobility Funds allocated to be the public equity investment in these projects. It is important to note these assumptions were made under differing market conditions, however, the terms and conditions provided here it is the best information available by the Alamo Regional Mobility Authority to date.

Environmental Justice

Background

In 1994 Executive Order No. 12898: Federal Action to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations was issued. Executive Order 12898 expands on the Title VI Civil Rights Legislation and promotes nondiscrimination in federal programs that substantially affect human health and the environment. In addition, the order provides minority and low-income communities access to public information and opportunity for public participation in related matters. All programs that receive funding from federal or state agencies require Environmental Justice consideration in accordance with federal or state law.

More specifically, Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, educational level, or income with respect to the development, implementation, and enforcement of environmental laws. "Fair Treatment" includes policies and practices that ensure that no group of people, including racial, ethnic, or socioeconomic groups bear disproportionately high and adverse human health or environmental effects resulting from federal or state agency programs, policies, and activities. Environmental Justice seeks to:

- Avoid, minimize or mitigate disproportionally high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.

- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

In addition to the definition above, the United States Department of Transportation (USDOT) issued specific guidelines to MPOs regarding Environmental Justice. MPOs are to:

- Explore needs within minority communities
- Involve minority communities and disabled persons in the transportation planning process
- Include minorities/disabled persons on boards and committees in leadership roles
- Document Title VI efforts
- Advertise public meetings in places where minorities/disabled persons go
- Hold meetings at times and places convenient for the minority community
- Communicate in languages other than English
- Consider special needs in public accommodations
- Follow up with the minority community after public meetings, when decisions are made and after project implementation

The MPO adheres to the USDOT guidelines by conducting specific outreach in underserved communities by hosting public meetings in strategic locations, translating information into Spanish, including minorities/disabled persons on committees, advertising public meetings and information in a variety of print media and documenting all efforts.

For the development of the long range transportation plan, in order to thoroughly engage the public and gather input the MPO hosted a series of public meetings throughout the region. The purpose of the meetings was to identify innovative approaches to solve transportation problems while engaging the community and serving as a catalyst for their interaction with local governments and decision makers.

The public commented on several major transportation issues discussed in the long range transportation plan. One major concern for the region is the potential use of tolled and managed lanes to help manage the projected increase in population by more than 600,000 people by 2035. Tolled and managed lanes are one strategy utilized to fund and maintain future roadway systems and mobility. As the MPO region becomes more diverse and non-traditional transportation projects such as tolls are explored, Environmental Justice issues will continue to be at the forefront of transportation planning efforts.

One of the core principles of Environmental Justice (EJ) analysis is the significant involvement of potentially impacted minority and low-income populations in the decision-making process surrounding transportation projects. The MPO and partner agencies recognize the need for and the clear benefits of Environmental Justice community participation. The proposed toll and managed lane projects in the 2035 long range transportation plan have been evaluated for potential impacts to Environmental Justice communities.

There is the realization that with tolled or managed lane facilities there are potential future and indirect impacts to the region. This analysis considers effects tolled facilities may have on populations in the region, particularly low-income and minority communities as traditionally underserved populations are most sensitive to toll roads or managed lanes in relation to access. Restricting access due to pricing may have the potential to create an imbalance of adverse effects. This analysis focuses on the benefits and negative impacts to Environmental Justice communities.

Analysis Methodology

At this stage, without an existing system in operation, it is difficult to determine the precise differences between EJ and Non EJ populations in regards to the toll system. As discussed in prior sections, the toll system will include annualized free service for VIA Metropolitan Transit, and will continue to maintain non-toll capacity within the same corridors, with new toll lanes being added to the corridor. No degradation of service is anticipated for non-toll users.

For the purpose of this analysis, though, the unit used was the traffic analysis zone (TAZ). The traffic analysis zones were selected based on the Census 2000 block groups of 50% or greater minority and low-income populations within a zone.

To reach the EJ threshold percentage, the minority population (of Bexar County, and parts of Comal and Guadalupe counties) within the MPO study area was divided by the total population. Table 5 shows the calculations. Nine additional TAZ were determined to be low income based on the United States Health and Human Services Poverty Guidelines provided in Table 6.

Table 5. Population Totals for the MPO Study Area

County	Total Population	Non-Hispanic White Population	Minority Population	Percent Minority Population
Bexar	1,391,665	495,527	896,138	64.4%
Comal (portion)	6,756	5,269	1,487	22.0%
Guadalupe (portion)	21,220	14,924	6,296	29.7%
MPO Study Area	1,419,641	515,720	903,921	63.7%
Source: 2000 Census				

Table 6. United States Health and Human Services Poverty Guidelines

The 2009 Poverty Guidelines for the 48 Contiguous States and the District of Columbia	
Persons in family	**Poverty guideline**
1	$10,830
2	$14,570
3	$18,310
4	$22,050
5	$25,790
6	$29,530
7	$33,270
8	$37,010
For families with more than 8 persons, add $3,740 for each additional person.	

As shown in Table 7, for the MPO study area, 68.5% of the number of TAZ are currently EJ zones. These current EJ zones translate into 44.4% of the square miles of the MPO study area and they are projected to contain 62.7% of the year 2035 population. For the MPO study area, 31.5% of the TAZ are non-EJ, reflecting 55.6% of the land area, and these 383 zones are projected to contain 37.3% of the year 2035 population. Due to data limitations, future EJ TAZ are not being projected with this analysis. As decennial census data is available over time, the MPO will update its analysis of EJ zones and the impacts of proposed transportation improvements on the region.

Table 7. Analysis of Environmental Justice Communities (MPO Study Area)

	2000 Population	% of Total	No. of Current TAZ	% of Total	Square Miles	% of Total	2035 Population	% of Total
Environmental Justice TAZ	975,410	68.7%	624	68.5%	570	44.4%	1,382,372	62.7%
Non-Environmental Justice TAZ	444,231	31.3%	287	31.5%	714	55.6%	822,922	37.3%
Totals	1,419,641	100.0%	911	100.0%	1,284	100.0%	2,205,294	100.0%

Most Environmental Justice communities in the MPO study area are located within Bexar County and generally cluster along the south, southwestern and southeastern portions of Bexar County. VIA Metropolitan Transit's current transit service placed over the EJ zones is shown in Figure 6, their proposed 2035 transit service placed over the

current EJ zones is shown in Figure 7 and the tolled/managed lane projects that are expected to be operational by year 2035 placed over the current EJ zones are shown in Figure 8.

Mitigation measures of the EJ communities with respect to the regional toll system include the availability of free travel lanes within the alignment of each of the proposed toll/managed lane facilities.

As currently proposed, the San Antonio Toll System will include and incorporate non-toll capacity within the same corridor as toll capacity, in accordance with Texas state law. No corridor in which non-toll traffic exists today will be converted to a toll-only traffic scenario in the future.

Under this approach, EJ communities will see a benefit from the proposed improvements as capacity would increase on non-toll facilities based on drivers choosing to use the toll facility.

Current plans call for the issuance of an annual credit, to be adjusted each year, between the Alamo Regional Mobility Authority and VIA Metropolitan Transit, to allow VIA vehicles – both administrative and transit related – to use the toll lanes for no charge up until the credit cap is reached each year. This credit cap is being established to allow certainty to be in place for the waiver, to help monitor usage of the corridor, and will be adjusted each year to reflect actual demand versus the planned demand currently incorporated into the proposed structure.

Figure 6. Transit Routes Located in Environmental Justice Zones (2009)

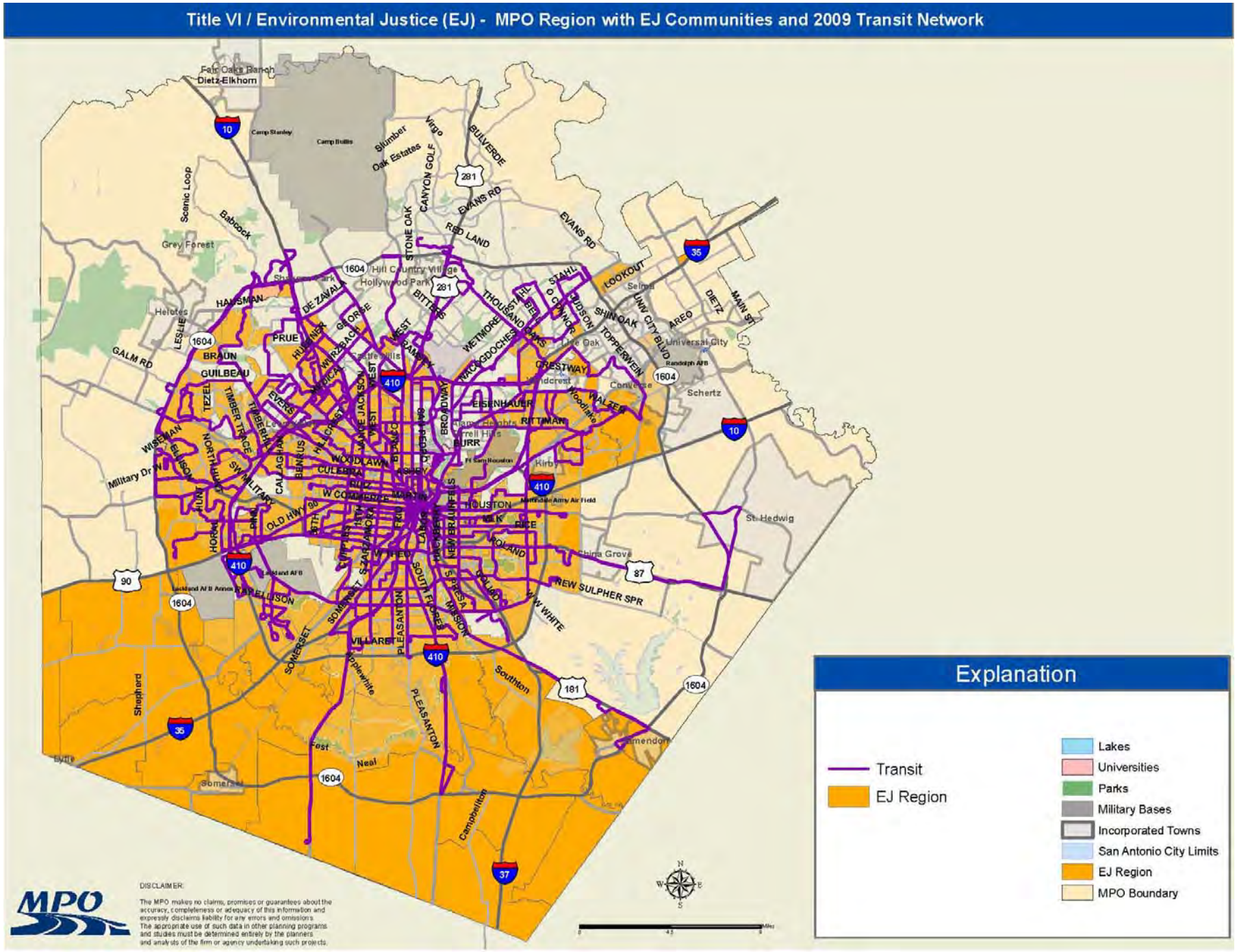


Figure 7. 2035 Transit Network Located in Environmental Justice Zones

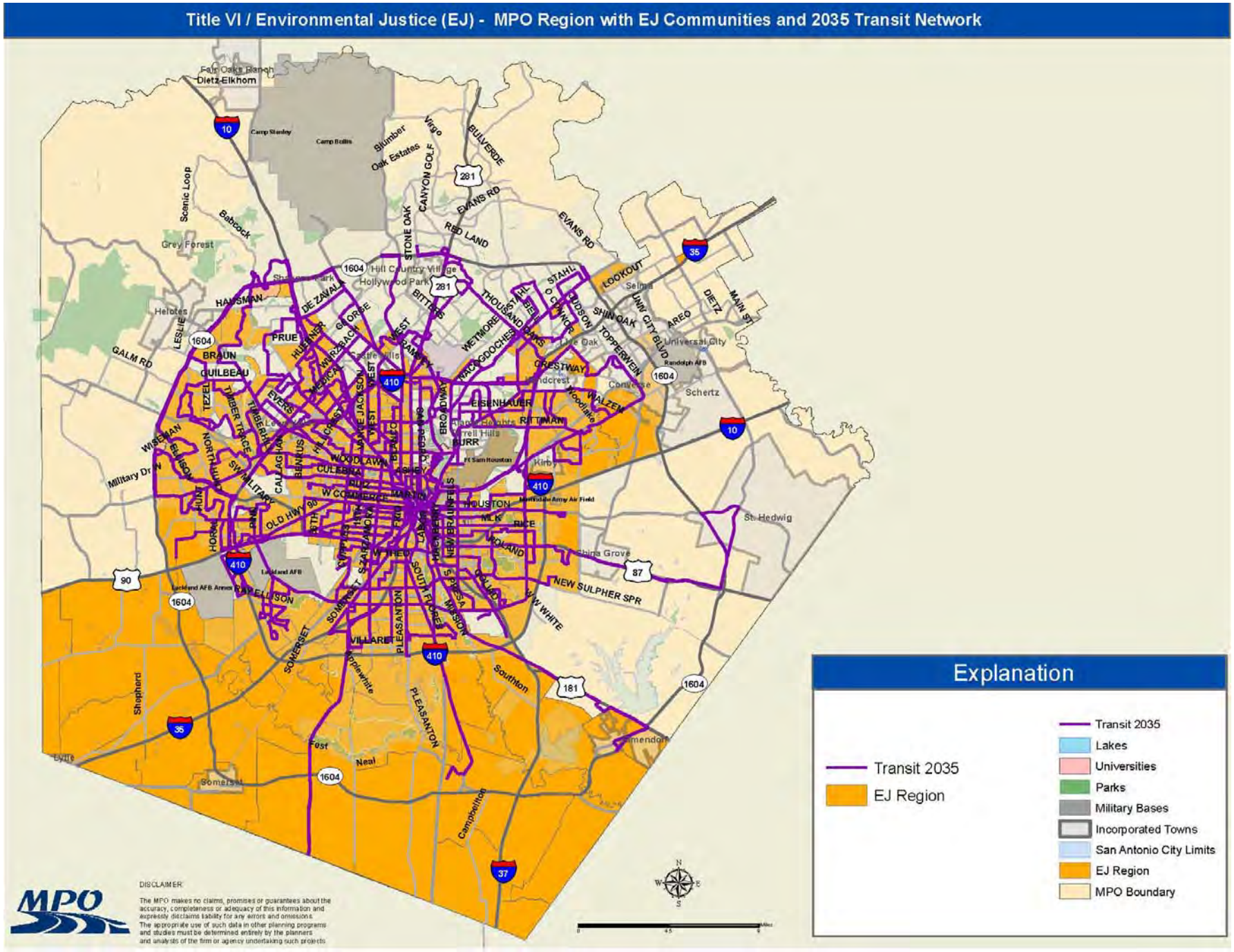
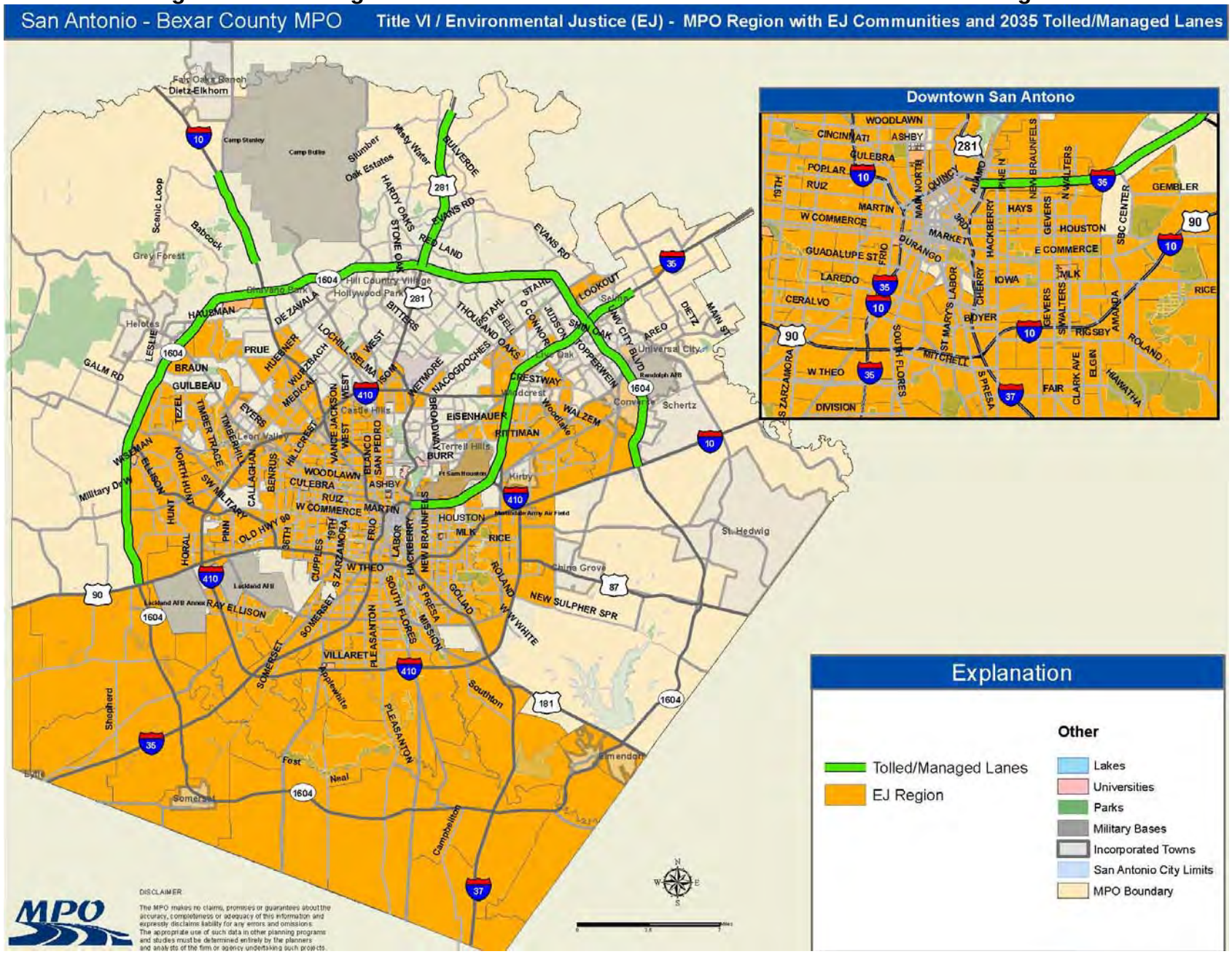


Figure 8. MPO Region's Environmental Justice Communities and Tolled/Managed Lanes



Analysis Results

The analysis examines potential impacts that tolled/managed lane facilities may have on accessibility of all persons by analyzing impacts on travel time choices of people residing in the Environmental Justice zones and Non-Environmental Justice zones. Having tolled/managed lane facilities results in travel time savings to those who choose to use the tolled/managed lane facilities and travel time savings to the adjacent non-tolled highway facilities. The question becomes whether the introduction of the tolled/managed lane facilities has a significant or disproportionate adverse impact on the Environmental Justice population. To address this issue an analysis of forecasted trips made by the Environmental Justice population were examined to determine if those trips were "candidate" trips for the tolled/managed lane facilities. Candidate trips are those where the toll path (as opposed to the free path) offers a shorter travel time. Trips that can save time on tolled facilities were determined through a TransCAD selected link analysis for all trips eligible to use toll facilities.

The analysis examines whether the introduction of the tolled/managed lane facilities has a significant or disproportionate adverse impact on the Environmental Justice population and examines whether Environmental Justice populations experience or will experience longer travel times by year 2035 due to the implementation of toll facilities. Table 9 shows the analysis for Home Based Work Person Trips and Table 10 shows the analysis for Home Based Non-Work Person Trips. The travel time show an overall decrease in travel times for Environmental Justice zones when using the tolled facilities. The travel times for Environmental Justice populations would increase if the 2035 long range transportation plan was not implemented (2035 No Build Network Using a Free Path). In summary, there appear to be no adverse impacts of the toll/managed lane future roadway system on Environmental Justice populations. Environmental Justice is a key effort to ensure equity in the transportation planning process.

In Tables 8 and 9, "Congested Average Trip Length" does not refer to any peak hour or peak period time of day. Rather, the determination of Average Trip Lengths (expressed in minutes of travel time) for the EJ Analysis is based upon the "Loaded Travel Time Skims", which are an output from the TransCAD User Equilibrium (UE) 24-hour traffic assignment process. The UE model uses the BPR function to downgrade the input speeds (and resulting travel times) based upon each roadway's assigned volume-to-capacity (V/C) ratio. The resulting "loaded speeds and travel times" are used to represent congested traffic conditions.

Table 8. Environmental Justice Analysis Using 2035 Home-Based Work Person Trips (MPO Study Area)

			Congested Average Trip Length (CATL) in Minutes of Free Path and Tolled Path Options under the 2035 Build and No Build Networks			
	Segmentation of 2035 HBW Person Trips by Potential Time Savings	No. of 2035 HBW Person Trips	Build Network ATL Using a Toll Path	Build Network ATL Using a Free Path	No Build Network ATL Using a Toll Path [2]	No Build Network ATL Using a Free Path
Environmental Justice Zones (n = 624)	Trips than can save 0+ minutes using a new toll facility [1]	55,593	28.92	31.94	n/a	36.11
	Trips that cannot save 0+ minutes using a new toll facility	877,050	20.01	20.07	n/a	22.37
Non-Environmental Justice Zones (n = 287)	Trips that can save 0+ minutes using a new toll facility	138,330	31.91	34.89	n/a	40.87
	Trips that cannot save 0+ minutes using a new toll facility	511,016	21.05	21.16	n/a	24.52

[1] Trips that can save time on tolled facilities are determined through a TransCAD Selected Link analysis for all trips.

[2] There are no toll facilities in the No Build Network.

Table 9. Environmental Justice Analysis
Using 2035 Home-Based Non-Work Person Trips
(MPO Study Area)

			Congested Average Trip Length (CATL) in Minutes of Free Path and Tolled Path Options under the 2035 Build and No Build Networks			
	Segmentation of 2035 HBNW Person Trips by Potential Time Savings	Number of 2035 HBNW Person Trips	Build Network ATL Using a Toll Path	Build Network ATL Using a Free Path	No Build Network ATL Using a Toll Path	No Build Network ATL Using a Free Path
Environmental Justice Zones (n = 624)	Trips than can save 0+ minutes using a new toll facility	111,281	35.55	38.49	n/a	43.64
	Trips that cannot save 0+ minutes using a new toll facility	2,908,397	12.70	12.71	n/a	14.66
Non-Environmental Justice Zones (n = 287)	Trips that can save 0+ minutes using a new toll facility	185,053	29.61	32.42	n/a	38.91
	Trips that cannot save 0+ minutes using a new toll facility	1,603,173	12.49	12.55	n/a	15.59

The results of the analysis suggest that although most of the toll facilities are not being implemented in environmental justice zones, these populations can have the benefit of the facilities. Other improvements such as VIA's modern streetcar system are proposed to serve the urban core thereby improving mobility for the environmental justice populations. As stated previously, mitigation measures of the environmental justice communities, with respect to the regional toll system, include the availability of free travel lanes within the alignment of each of the proposed toll/managed lane facilities.

Appendix A

Draft Methodologies and the Level of Detail in the Analysis of Alternatives for the U.S. 281 and Loop 1604 EIS'

2.0 Methodologies and Level of Detail in the Evaluation of Alternatives

The development of methodologies to analyze issues and resources is being coordinated among the Joint Lead Agencies and with the cooperating and participating agencies. All applicable federal and state laws and current regulatory guidance will be followed for each section of the Draft and Final EIS. What follows are topics where coordination is occurring or may occur on methodologies and level of detail for analysis of the alternatives. The EIS will be prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, and in accordance with NEPA regulations issued by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508), Federal Highway Administration (FHWA) regulations and policies (23 CFR 771), FHWA Technical Advisory T6640.8A, and in accordance with 43 Texas Administrative Code.

Table 1: Resource Specific Methodology for Draft EIS and Final EIS Analysis and Agency Coordination on Methodologies and Level of Detail in the Evaluation of Alternatives

Resources	Methodology for Draft EIS	Methodology for Final EIS	Specific Agency Coordination Conducted To Date
Land Use	Historic, existing and currently planned/proposed land uses will be studied and documented to evaluate the interface between land use and the US 281 transportation network and the proposed alternatives. Existing land use will be determined in a 0.5-mile radii, or 0.25-mile on either side of each proposed alternative alignment centerline. Planned and/or proposed land use will be discussed in terms of local government plans and policies.	The Final EIS will use the same method and will update any changes to land use subject to changes in the alignment centerline of the Preferred Alternative. In addition, local government plans and policies will be updated to reflect any changes.	None.
Farmlands	Guidance for this topic derives from the Farmland Protection Policy Act (FPPA 1981), which is administered by the United States Department of Agriculture's Natural Resource Conservation Service (NRCS). A Farmland Conversion Impact Rating Form (form NRCS-CPA-106) will be completed. Soil data will be obtained from the NRCS Soil Survey of Bexar County.	Updates to the NRCS-CPA-106 form will be coordinated with the NRCS if the right-of-way for the Preferred Alternative differs from that proposed in the Draft EIS.	**07/15/2010** – Coordination initiated with the NRCS. **07/22/2010** – Response received from NRCS.
Social and Community Resources, including Environmental Justice	Using both 2010 and 2000 Census Data, the Draft EIS will address demographics, housing, neighborhoods, community cohesion, potential relocations and displacements and the requirements of the Uniform Relocation and Real Property Acquisition Policies Act of 1970, economic effects, employment, community and public resources, and bicycle and pedestrian facilities. The Executive Order on Environmental Justice (EJ) will be addressed with respect to minority and low-income populations, including Limited English Proficiency.	The Final EIS will update and replace 2000 Census data to the most current 2010 Census datasets available and document any changes to potential impacts associated with the Preferred Alternative.	None.
Environmental Justice Toll Analysis	Primary guidance for the environmental justice toll analysis is provided by *Joint Guidance for Project and Network Level Environmental Justice, Regional Network Land Use, and Air Quality Analysis for Toll Roads* (2009), FHWA and TxDOT. The San Antonio – Bexar County MPO developed a *Regional Toll and Managed Lane Analysis* (draft July 2010) that will be used by both the US 281 EIS and Loop 1604 EIS upon acceptance by FHWA. Separate project level EJ analyses will be developed by the respective EIS teams in compliance with the referenced FHWA and TxDOT guidance.	Any subsequent updates to the San Antonio – Bexar County MPOs *Regional Toll and Managed Lane Analysis* will be utilized to analyze the Preferred Alternative.	**05/11/09 – US 281 EIS and Loop 1604 EIS Decision-Makers Kickoff Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **06/01/09 – Regional Toll Analysis Meeting** (FHWA, TxDOT, San Antonio-Bexar County MPO, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **05/12/10 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **01/11/11 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team)

Resources	Methodology for Draft EIS	Methodology for Final EIS	Specific Agency Coordination Conducted To Date
Joint Development	The Draft EIS will identify and discuss any joint development measures which will preserve or enhance the social, economic, environmental, and visual values of the community surrounding US 281. It will also identify the benefits to be derived, those who will benefit and the entities responsible for maintaining the identified measures.	The same method will be used to identify and discuss joint development measures related to the Preferred Alternatives in the Final EIS.	None.
Cultural Resources	The Draft EIS will rely on cultural resource studies performed in support of the 2007 Environmental Assessment for US 281, under which Section 106 requirements were completed and which sufficiently cover the current Area of Potential Effects (APE). The Draft EIS will document the effect of project alternatives on cultural resources as determined by previous coordination with the Texas Historical Commission.	Additional field surveys for historic and archeological resources will be conducted for the Preferred Alternative and documented in the Final EIS. A public meeting regarding the Preferred Alternative is scheduled to occur after the Draft EIS Public Hearing and prior to circulation of the Final EIS. The results of the cultural resource surveys and Section 106 coordination will be shared with the public at this public meeting.	**06/02/09 – US 281 EIS and Loop 1604 EIS ICI Coordination Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **08/11/10 – US 281 EIS Cultural Resources Coordination Meeting** (TxDOT, Alamo RMA, US 281 EIS Team)
Air Quality	Using TxDOT's Air Quality Guidelines (2006) as the primary guidance, the Draft EIS will prepare a carbon monoxide (CO) analysis using TxDOT's Carbon Monoxide Look-Up Table and a qualitative assessment of Mobile Source Air Toxics (MSAT) with a sensitive receptor assessment for all alternatives. In addition, traffic volumes for the Draft EIS are being developed by the US 281 EIS Team based on existing volumes and the San Antonio-Bexar County MPO's current travel demand model.	The Final EIS will have a quantitative MSAT assessment completed for the Preferred Alternative which would include roadway emissions produced during the base year, the year construction is complete, and the design year. Traffic data for the Final EIS will be based on design level traffic volumes coordinated and approved by TxDOT TP&P Division. Depending on the final date of implementation of a new eight-hour ozone standard, the Final EIS would potentially address a new standard and the regional strategies for addressing non-attainment.	**06/02/09 – US 281 EIS and Loop 1604 EIS ICI Coordination Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **08/31/10 – US 281 EIS ICI Coordination Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team) **01/11/11 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team)
Traffic Noise	This analysis will be completed in accordance with 23 CFR 772 and use FHWA's traffic noise model (TNM 2.5). FHWA has recently published new guidance, Highway Traffic Noise: Analysis and Abatement Guidance (2010), and TxDOT's newly released Guidelines for Analysis and Abatement of Roadway Traffic Noise (April 2011). The analysis for the Draft EIS will include a detailed model for each alternative in a flat plan for roadways, receptors, and barriers. This strategy would be a conservative approach in traffic noise estimations for the Draft EIS and would include the specific number and location of affected receivers and proposed feasible and reasonable noise abatement. Traffic volumes for the Draft EIS are being developed by the US 281 EIS Team based on existing volumes and the San Antonio-Bexar County MPO's current travel demand model.	The analysis for the Final EIS will be completed in accordance with the 2011 TxDOT noise policy and include a detailed traffic noise analysis for the Preferred Alternative, including the specific number and location of affected receivers and proposed feasible and reasonable noise abatement. Traffic data for the Final EIS will be based on design level traffic volumes coordinated and approved by TxDOT TP&P Division.	**08/26/10 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **01/11/11 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **01/28/11 - US 281 EIS and Loop 1604 EIS Traffic Noise Coordination Letter to TxDOT Environmental Affairs Division** **04/06/11 - US 281 EIS and Loop 1604 EIS Traffic Noise Coordination Conference Call** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team)

Resources	Methodology for Draft EIS	Methodology for Final EIS	Specific Agency Coordination Conducted To Date
Water Quality	Baseline and potential impacts to water quality will include an inventory of surface waters in the US 281 corridor, as well as listing 303(d) stream segments per TCEQ's Texas Surface Water Standards, which complies with Section 303(d) of the Federal Clean Water Act. A groundwater quality inventory and assessment may include, but is not limited to: geology and karst recharge features, sources of contamination, aquifer flow paths and discharge. In addition, a survey of public drinking water systems will include a review of water supply wells and published groundwater reports in the corridor.	The same method will be utilized to analyze water quality impacts for the Preferred Alternative in the Final EIS; however, in compliance with the Edwards Aquifer Rules coordination with TCEQ would be initiated for Phase I storm water permits, which includes a Texas Pollutant Discharge Elimination System (TPDES) permit and a Notice of Intent (NOI) General Permit. In addition, and in accordance with TCEQ policies, a Storm Water Pollution Prevention Plan (SWPPP) would be developed and TxDOT's Storm Water Management Guidelines for Construction Activities would provide guidance for temporary erosion control measures during construction. Best management practices would be identified to avoid/minimize impacts to water quality. Low Impact Development (LID) will also be considered in the Final EIS for the Preferred Alternative following *RG-348 Complying with the Edwards Aquifer Rules Technical Guidance on Best Management Practices*. According to this guidance, the LID techniques currently approved by TCEQ are bioretention, permeable friction course, Filterra®, Stormfilter®, and Stormceptor®.	None.
Floodplains	This analysis will be completed using the Flood Insurance Rate Maps published by the Federal Emergency Management Agency (FEMA) for Bexar County. The locations of the 100-year floodplain within the areas of the proposed alternative alignments will be determined. Floodplain impacts to be assessed may include, but are not limited to: increased impermeable surface area and linear feet of 100-year floodplain crossings.	The same method will be utilized to analyze floodplain impacts for the Preferred Alternative. In addition, a hydraulic study will be conducted to locate and size culverts and bridges at stream crossings.	None.
Wetlands and Other Waters of the United States	A survey will take place of the general types of wetlands that occur in the US 281 project corridor using published USFWS National Wetland Inventory (NWI) maps and the Cowardin classification system of wetlands and deepwater habitat, as well as aerial photographs and USGS topographic maps. Field reconnaissance would preliminarily verify the presence of wetland areas within existing and proposed right-of-way.	A wetland delineation will be performed within the Preferred Alternative right-of-way and will include a preliminary jurisdictional determination and potential impacts assessment. Final wetland determination(s) would be decided by the USACE and the resource agencies during the Section 404 permitting process, if necessary. Permitting and mitigation requirements would be determined as needed.	None.
Water Body Modification and Wildlife Impacts	The draft EIS will identify the location and extent of any water body modifications (e.g., impoundment, relocation, channel deepening, filling, etc.). The use of any stream or body of water for recreation, water supply, or other purposes will be identified. Impacts to fish and wildlife resulting from any loss, degradation, or modification of aquatic or terrestrial habitat will also be discussed.	The same method will be utilized in the Final EIS to identify any water body modification and wildlife impacts related to the Preferred Alternative.	None.

Resources	Methodology for Draft EIS	Methodology for Final EIS	Specific Agency Coordination Conducted To Date
Threatened and Endangered Species	Avian surveys have been completed and karst invertebrate surveys have occurred within 500 feet of the proposed ROW for all proposed Build Alternatives where right-of-entry has been granted. Methods for the avian surveys follow the most recent U.S. Fish and Wildlife Service (USFWS) protocols outlined in *USFWS Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys for Endangered Golden-cheeked Warblers*, (2006). Methods for the karst surveys follow the USFWS protocol outlined in *USFWS Section 10(a)(1)(A) Scientific Permit Requirements for Conducting Presence/Absence Surveys for Endangered Karst Invertebrates in Central Texas, (*2006) and *Geologic Controls on Cave Development and the Distribution of Endemic Cave Fauna in San Antonio, Texas Region,* (Veni, 1994). The potential for occurrence and the need for consultation with USFWS and Texas Parks and Wildlife Department (TPWD) will be discussed in the Draft EIS. Coordination with USFWS regarding species surveys and methodologies will be ongoing and will include karst-specific meetings.	A biological assessment will be submitted, in consultation with USFWS, for the Preferred Alternative and impacts and mitigation will be analyzed.	**05/11/09 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **01/22/10 – US 281 EIS Endangered Species Act Coordination Meeting** (USFWS, Alamo RMA, US 281 EIS Team) **03/23/10 - US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **09/15/10 – US 281 EIS and Loop 1604 EIS Endangered Species Act Coordination Meeting** (USFWS, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **10/18/10 - US 281 EIS and Loop 1604 EIS – Letter to USFWS requesting guidance on bird survey methodologies.** **01/11/11 – US 281 EIS and Loop 1604 EIS Decision-Makers Meeting** (FHWA, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **03/01/11 - US 281 EIS and Loop 1604 EIS – Endangered Species Act Coordination Meeting** (USFWS, TxDOT, Alamo RMA, US 281 EIS Team, Loop 1604 EIS Team) **05/11/11 - US 281 EIS and Loop 1604 EIS – Response letter from USFWS regarding bird surveys.**
Hazardous Materials	The Hazardous Materials Assessment will be completed per the TxDOT standard search radii (typically 0.25 to 1 mile) for federal and state (ASTM and TxDOT) environmental databases and documented in the Draft EIS.	The same method will be utilized to identify hazardous materials within the standard search radii of the Preferred Alternative in the Final EIS.	None.
Visual and Aesthetic Qualities	This evaluation will follow guidance developed by the FHWA including *Esthetics and Visual Quality Guidance Information* (1986), *Environmental Impact Statement Visual Impact Discussion* (undated), and *Visual Impact Assessment for Highway Projects* (1981).	The same method will be utilized to analyze visual and aesthetic impacts of the Preferred Alternative in the Final EIS.	None.

Resources	Methodology for Draft EIS	Methodology for Final EIS	Specific Agency Coordination Conducted To Date
Energy	The Draft EIS will discuss in general terms the construction and operational energy requirements and conservation potential for each alternative.	The Final EIS will identify any energy conservation measures that will be implemented as a part of the Preferred Alternative.	None.
Construction Impacts	The Draft EIS will discuss the potential adverse impacts associated with construction of each build alternative and identify appropriate mitigation measures.	The Final EIS will identify, as appropriate, any proposed mitigation for the Preferred Alternative related to construction impacts.	None.
Relationship of Local Short-term Uses verses Long-term Productivity	The Draft EIS will discuss in general terms the proposed alternatives' relationship to local short-term impacts and use of resources, and the maintenance and enhancement of long-term productivity.	The same general discussion will be applied to the Preferred Alternative in the Final EIS.	None.
Irreversible and Irretrievable Commitment of Resources	The Draft EIS will discuss in general terms the build alternatives' irreversible and irretrievable commitment of resources.	The same general discussion will be applied to the Preferred Alternative in the Final EIS.	None.
Climate Change	A qualitative discussion of greenhouse gas emissions will be presented in the Draft EIS.	The same method will be utilized to analyze climate change impacts of the Preferred Alternative in the Final EIS. Additional analysis may be performed in the event that FHWA issues regulatory guidance on the topic of climate change/greenhouse gas emissions.	None.

Methodologies and Level of Detail in the Analysis of Alternatives for Loop 1604 EIS US-90 West to IH 35 North, Bexar County, Texas

The development of methodologies to analyze issues and resources is being coordinated among the Joint Lead Agencies and with the cooperating and participating agencies. All applicable federal and state laws and current regulatory guidance will be followed for each section of the Draft and Final EIS. What follows are topics where coordination is occurring or may occur on methodologies and level of detail for analysis of the alternatives. The EIS will be prepared pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended, and in accordance with NEPA regulations issued by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1500-1508), Federal Highway Administration (FHWA) regulations and policies (23 CFR 771), FHWA Technical Advisory T6640.8A, and in accordance with 43 Texas Administrative Code. Consistent with §1501.7, initial scoping efforts focused on specific issues and resources identified through prior environmental studies and public and agency involvement thought to be significant. Public scoping meetings are documented separately in summary reports that are available for review on the project website at: www.MoreFor1604.com/EIS.html.

Table 1: Draft and Final EIS Resource Specific Analysis Methods and Coordination Conducted to Date

Resource/Consideration	Draft EIS	Final EIS	Specific Coordination Conducted To Date
Land Use	Existing land use within 500 feet of the existing right-of-way was determined by on-site inspection. Existing land use within 2,500 feet of the right-of-way was determined using City of San Antonio aerial photography (2009) and land parcel data from Bexar County Appraisal District (2009). Reviewed land use plans and policies and proposed developments. Assessed the effects of alternatives on land use.	Update land use data through subsequent field efforts. Identify any land use changes attributed to the Preferred Alternative.	12/20/2009 – Camp Bullis - Letter expressing concerns related to increasing development. 4/29/2010 – Northside ISD – Interview regarding Land Use Development and ICI 4/29/2010 – Northeast ISD – Interview regarding Land Use Development and ICI 4/29/2010 – Westover Hills / Greater San Antonio Chamber of Commerce – Interview regarding Land Use Development and ICI 4/30/2010 – Camp Bullis – Interview regarding Land Use Development and ICI 4/30/2010 – Southwest ISD – Interview regarding Land Use Development and ICI 4/30/2010 – UTSA – Interview regarding Land Use Development and ICI 5/11/2010 – GEAA – Interview regarding Land Use Development, Aquifer Protection, and ICI 5/14/2010 – Randolph AFB – Interview regarding Land Use Development and ICI
Farmlands and Soils	Scored the Build Alternative using the NRCS-CPA-106 form, Farmland Conversion Impact Rating for Corridor Type Projects. Coordinated with the Natural Resources Conservation Service (NRCS) regarding the form and scoring. Identified soil types occurring within the proposed project area as well as which of those soil types are hydric.	Update NRCS Form and coordination effort if Preferred Alternative extends beyond currently proposed right-of-way limits. Develop appropriate minimization and mitigation measures, if necessary (not likely).	10/5/2009 – NRCS - Letter from NRCS accepting C/P agency invitation and expressing interest in Prime Farmlands. 7/13/2010 – NRCS - Letter from NRCS responding to 7/2/2010 e-mail. Evaluated site as required by FPPA. Contains soils classified as important Farmland, completed Parts II, IV, and V of NRCA-CPA-106. Combined rating 54.5, no further consideration needed.
Community and Social Resources	Analyzed most recent census data at the most detailed level available for the Traffic Analysis Study Area by Traffic Analysis Zone. The analyses covered housing and neighborhoods, population and demographics, race and ethnicity, Limited English Proficiency, economics, employment, community and public resources, and bicycle and pedestrian facilities. Administered questionnaires to 25 neighborhood Home Owners' Associations and 45 Places of Worship. Referenced the San Antonio-Bexar County Metropolitan Planning Organization's Regional Toll Analysis and provided analysis of tolling at the project-specific level.	Update impacts if Preferred Alternative extends beyond currently proposed right-of-way limits. Discuss specific socioeconomic impacts in greater detail if additional design details are available for a Preferred Alternative.	6/01/09 – San Antonio-Bexar County MPO – Meeting to discuss the Regional Toll Analysis 9/29/2009 – Community Advisory Group Meeting 1/28/2010 – Community Advisory Group Meeting 3/25/2010 – Community Advisory Group Meeting 10/26/2010 – Community Advisory Group Meeting Questionnaires sent to 25 neighborhood Home Owners' Associations and 45 Places of Worship. Responses received from questionnaires include the

Resource/Consideration	Draft EIS	Final EIS	Specific Coordination Conducted To Date
			following: No Date - Brookwood Owners Associate No Date - Hollow at Inwood HOA 1/26/2010 – Congregation Agudas Achim 1/27/2010 - Northern Hills United Methodist 1/28/2010 – Wilderness Oak Association 1/29/2010 - Champions Ridge 2/2/2010 – San Antonio Bible Church 2/4/2010 - New Beginnings Lutheran Church 2/4/2010 - Bridgewood Association Inc. 2/8/2010 - Greystone Property Owners Association 2/8/2010 – Christian Family Church 2/8/2010 – Stone Oak Property Owners Association, Inc. 2/11/2010- Hidden Meadow Community 2/12/2010 – Oak Hills Church Crownridge 2/17/2010 – Community Bible Church 3/18/2010 - Genesis Full Life Fellowship Church, Inc. 3/29/2010 – Redland Estates HOA
Air Quality	Modeled Carbon Monoxide emissions using CAL3QHC and MOBILE 6.2. Identified sensitive receptors, calculated Mobile Source Air Toxics and Greenhouse Gas emissions for the alternatives. Performed qualitative regional examination for applicable transportation plans.	Refine assessment and analysis based on the design of the Preferred Alternative and current air quality regulations.	1/12/2010 and 1/29/2010 – TCEQ – Letters from TCEQ accepting participating agency invitation, identified Air Quality Division Mobile Source Programs Team as contact. 1/26/2010 – Agency Scoping Meeting included review of environmental issues. Camp Bullis asked about the likely 2013 designation for ozone non-attainment in San Antonio and how the EIS would handle that issue. The group agreed that this is an important issue and that the San Antonio-Bexar County MPO is aware of the issue and that the EIS team would work closely with them moving forward.
Traffic Noise	Used the Traffic Noise Model version 2.5 to identify noise impacts associated with each alternative to representative receiver locations. Mapped locations where site specific noise impacts could occur as a result of the alternatives considered. Analyzed land use adjacent to the corridor. Completed a preliminary analysis of feasible and reasonable mitigation. Completed 36 field measurements to determine ambient noise levels under current conditions. Method adhered to FHWA's final rule published on July 13, 2010 that updates 23 CFR 772 - Procedures and Abatement of Highway Traffic Noise and Construction Noise. Method adhered to TxDOT's April 2011 Guidelines for Analysis and Abatement of Highway Traffic Noise. Since a ROD was not issued for Loop 1604 before July 13, 2011, the Loop 1604 EIS must meet the requirements of the amended final rule and revised TxDOT policy.	For the Preferred Alternative, perform detailed mitigation analysis with Traffic Noise Model version 2.5 using roadway design file inputs, cross-sections, etc. Perform supplemental field noise measurements if needed. Method adheres to FHWA's final rule published on July 13, 2010 that updates 23 CFR 772 - Procedures and Abatement of Highway Traffic Noise and Construction Noise. Follow methods prescribed in TxDOT's April 2011 Guidelines for Analysis and Abatement of Highway Traffic Noise. Since a ROD was not issued for Loop 1604 before July 13, 2011, the Loop 1604 EIS must meet the requirements of the amended final rule and revised TxDOT policy.	None.
Water Quality	Identified wells, karst features, and springs within the groundwater Resource Study Area. Reported vulnerability of groundwater to contamination based on the literature. Determined impacts to groundwater for each alternative. Identified major and minor watersheds and calculated the Total Suspended Solids Removal Required by alternative. Identified Waters of the U.S. including wetlands through desktop reviews and field delineations. Reported acreage impacts to waters of the U.S. and wetlands by alternative.	Determine impacts to groundwater associated with the Preferred Alternative's design. Identify additional drainage easements, if needed. Identify and design context sensitive Best Management Practices to avoid and/or minimize impacts to groundwater. Identify and evaluate new industry practices to further reduce impacts to water quality.	1/26/2010 – Agency Scoping Meeting included review of environmental issues. SARA indicated that water quality and quantity of both surface waters and groundwater associated with the Edwards Aquifer are important. Streams are important from a water quality and quantity perspective. SAWS asked if entities such as Edwards Aquifer Authority and SAWS would have access to findings and reports generated during the EIS process, specifically any reports related to karst features and the Edwards Aquifer.

Resource/Consideration	Draft EIS	Final EIS	Specific Coordination Conducted To Date
Floodplains	Calculated the acreages of mapped 100-year floodplains that occur within the existing and proposed right-of-way.	Perform a hydraulic study to locate and size culverts and bridges at stream crossings so that the proposed project would not increase the risk of flooding.	None.
Wetlands and Other Waters of the U.S.	Identified Waters of the U.S. including wetlands through desktop reviews and field delineations. Reported acreage impacts to waters of the U.S. and wetlands by alternative.	Quantify impacts specific to the Preferred Alternative, determine permit type, and identify required mitigation, if any. Prepare permit or pre-construction notification.	10/13/2009 and 10/22/2009 USCOE – Letters accepting cooperating and participating agency invitation. Reviewed in accordance with Section 404 and Section 10. Areas such as rivers, streams, creeks, wetlands, playa lanes, on-channel pond, isolated ponds, abandoned sand and gravel and construction pits and other associated areas may occur within project area. Clearing/grading, temporary and permanent road crossing, facilities, drainage features are examples that may require authorization where occur in waters of the U.S. May be general permit NWP 14 for Linear Trans Project if terms conditions met. Cultural and threatened and endangered species known in vicinity of project area. Consider potential effects on cultural resources as well as threatened and endangered species in planning. Avoid/minimize impacts to streams, wetlands, other waters of U.S. Provide completed application for NWP 14 or individual permit when more detailed information is available.
Vegetation, Habitat, and Invasive Species	Completed field surveys and habitat assessments for the proposed alternatives. Reported acreages of impact and percent of Project Area by vegetation land cover type.	Refine assessment and analysis based on the design of the Preferred Alternative.	1/26/2010 TPWD, etc - Agency Scoping Meeting TPWD requested that a Natural Diversity Database search request letter be provided to TPWD so that the process of doing the search and identifying important state listed rare species and associated habitat could be formally started. Early coordination with TPWD will be initiated.
Threatened and Endangered Species	Completed two years of surveys for Black Capped Vireo and Golden Cheeked Warblers. Identified and when required, excavated karst features within the existing and proposed right-of-way and within a 500 feet buffer adjacent to the right-of-way. Conducted presence-absence biological surveys for karst invertebrates.	Complete biological surveys based on the design of the preferred alternative, prepare biological assessment, assist with formal consultation with the U.S. Fish and Wildlife Service (USFWS), and incorporate final mitigation for impacts associated with the Preferred Alternative.	3/24/2009 – USFWS - Initial coordination meeting held to review methods for habitat assessment and presence/absence surveys. USFWS requested site visit. 4/10/2009 – USFWS - Site Visit to review potential habitat and methods for conducting presence/absence surveys. 1/26/2010 – Agency Scoping Meeting included review of survey methods. USFWS unable to attend but were provided meeting materials/summary. TPWD requested screening criteria to include protected state and federal species and rare resources (i.e., protected wildlife). 3/19/2010 – USFWS – Follow-up coordination meeting to discuss field survey status and CHUs. If no endangered birds observed in 2010 nesting season, USFWS recommended a meeting to discuss if 3rd year necessary or required. 9/3/2010 – USFWS – Transmittal of report to USFWS regarding the 2010 Habitat Assessments and Presence/Absence Surveys for the Golden-cheeked Warbler and Black-capped Vireo. 9/15/2010 – USFWS- Follow-up coordination meeting to provide a status update on biological surveys, discuss ICI, and next step(s) with USFWS. 10//18/2010 – USFWS – E-mail submitting letter to USFWS regarding Regulatory Guidance for Endangered Bird Presence/Absence Surveys Conducted for EISs at US 281 (from Loop 1604 to Borgfield Rd) and Loop 1604 (from IH 35 to US 90) -Summary of results to date and request concurrence that two years of surveys provide sufficient data to determine that it is unlikely the project area is utilized by these endangered birds. 3/1/2011 – USFWS – Follow-up coordination meeting to review results of bird and karst surveys, request USFWS concurrence to consider 2 years of bird surveys adequate, discuss proposed CHU modifications and pre-emptive mitigation opportunities, review timeline and order of operations for submission

Resource/Consideration	Draft EIS	Final EIS	Specific Coordination Conducted To Date
			of BA and subsequent issuance of BO and ROD.
Coastal Zone Management and Coastal Barriers	Determined that the Loop 1604 corridor does not lie within a area designated as a Coastal Barrier Resource Zone and is therefore not subject to Coastal Barrier Resource Act regulations.	No further action required.	None.
Wild and Scenic Rivers	Determined that no river or river segments listed in the National Inventory of the National Wild and Scenic River System are located within the Loop 1604 corridor or Indirect Effects Area of Influence (AOI).	No further action required.	None.
Cultural Resources	Completed Historic Structures Survey and Archaeological Surveys for the proposed project Area of Potential Effects per the protocol set forth in the *First Amended Programmatic Agreement Among the Federal Highway Administration, the Texas Department of Transportation, the Texas State Historic Preservation Officer, the Advisory Council on Historic Preservation Regarding the Implementation of Transportation Undertakings* (PA-TU). The Area of Potential Effects (APE) for Historic Resources was determined to be 150 feet beyond the existing and proposed right-of-way. A reconnaissance level survey evaluated historic age resources constructed in 1969 or earlier within the 150 foot APE. The archaeological APE included the right-of-way, proposed right-of-way and 500 foot buffers at all major interchanges.	Complete surveys based on design of the Preferred Alternative if additional surveys are required. Perform testing and data recovery if required. Identify mitigation, if any, associated with the impacts of the Preferred Alternative.	10/20/2009 – Alabama-Coushatta Tribe of Texas – Letter from the Tribe stating no known impacts to religious, cultural, or historical assets of the Alabama-Coushatta Tribe of Texas should occur in conjunction with this proposal. 12/15/2009 THC - Phone Call Report stating that the THC was in programmatic agreement with TxDOT ENV and would monitor any projects coming from Alamo RMA. Elected not to become Participating Agency.
Hazardous Materials	Inventoried potential hazmat sites within or adjacent to the project corridor.	Complete Phase I Site Assessment for proposed right-of-way needed for the Preferred Alternative, if any.	None.
Visual and Aesthetic Qualities	Completed a Visual Impact Severity Assessment and assessed impacts by alternative.	Report impacts specific to the Preferred Alternative.	None.
Climate Change	Calculated metric ton per day emissions of Green House Gases by alternative.	Refine assessment and analysis based on the design of the Preferred Alternative.	None.
Indirect and Cumulative Impacts	Principal guidance is provided by TxDOT's Guidance on Preparing Indirect and Cumulative Impact Analyses (2010), as well as the National Cooperative Highway Research Program (NCHRP) Report 466, Desk Reference for Estimating Indirect Effects of Proposed Transportation Projects (National Research Council, 2002). Interviews with land use experts (i.e. Camp Bullis, Randolph Air Force Base, three area school districts, University of Texas, San Antonio, a private developer, and the Greater Edwards Aquifer Alliance) indicated that current suburban development trends would continue to occur. Based on the results of these interviews and on planned development data provided by the City of San Antonio, Loop 1604 improvements would not induce development. Coordination meetings are ongoing with the US 281 Team, San Antonio-Bexar County MPO, and the Joint Leads regarding guidance, area of influence, encroachment-alteration effects, induced development for each alternative, effects related to induced growth, resource study areas, history and health of each resource, past, present and reasonably foreseeable future projects, and funding option (non-toll, toll, and managed).	The same method will be utilized to analyze indirect and cumulative impacts of the Preferred Alternative in the Final EIS.	4/29/2010 – Northside ISD – Interview regarding Land Use Development and ICI 4/29/2010 – Northeast ISD – Interview regarding Land Use Development and ICI 4/29/2010 – Westover Hills / Greater San Antonio Chamber of Commerce – Interview regarding Land Use Development and ICI 4/30/2010 – Camp Bullis – Interview regarding Land Use Development and ICI 4/30/2010 – Southwest ISD – Interview regarding Land Use Development and ICI 4/30/2010 – UTSA – Interview regarding Land Use Development and ICI 5/11/2010 – GEAA – Interview regarding Land Use Development, Aquifer Protection, and ICI 5/14/2010 – Randolph AFB – Interview regarding Land Use Development and ICI